

09/496200

## ABSTRACT OF THE DISCLOSURE

The present invention relates to a coated cemented carbide insert for turning of steel, like low alloyed steels, carbon steels and tough hardened steels at high cutting speeds. The cemented carbide consists of WC, 2-10 wt. % Co and 5 4-12 wt. % of cubic carbides of metals from groups 4, 5 or 6 of the periodic table, preferably Ti, Ta and Nb. The Co-binder phase is highly alloyed with W with a CW-ratio of 0.75-0.90. The insert has a binder phase enriched and essentially cubic carbide free surface zone A of a thickness of <20  $\mu\text{m}$  and along a line C essentially bisecting the edge, in the direction from the edge to the centre of the 10 insert, a binder phase content increases essentially monotonously until it reaches the bulk composition. The binder phase content at the edge is 0.65-0.75 times the binder phase content by volume of the bulk and the depth of the binder phase depletion is 100-300  $\mu\text{m}$ , preferably 150-250  $\mu\text{m}$ . The insert is coated with 3-12  $\mu\text{m}$  columnar TiCN-layer followed by a 2-12  $\mu\text{m}$  thick  $\text{Al}_2\text{O}_3$ -layer.